NBII Education: "Ecology in the Classroom"

Online products developed by the NBII and its partners can assist teachers in designing creative ways to integrate environmental topics into the classroom.

The National Biological Information Infrastructure (NBII) is a Web-based electronic gateway that provides access to data and information on the nation's biological resources. The NBII Program is based on a network of partners coordinated by the U.S. Geological Survey, with data and information provided and maintained by federal, state, and local government agencies; academic and research institutions; the private sector and non-profit organizations; and others around the nation and the world.

While many of the products produced through the Program are designed for scientific research and land management decision-making, they can also be used in the classroom to give students a real-world approach to learning. The NBII supports the premise that education is multi-disciplined. Accordingly, ecological issues can be used as a foundation when designing various teaching curricula to expose students to current concerns.

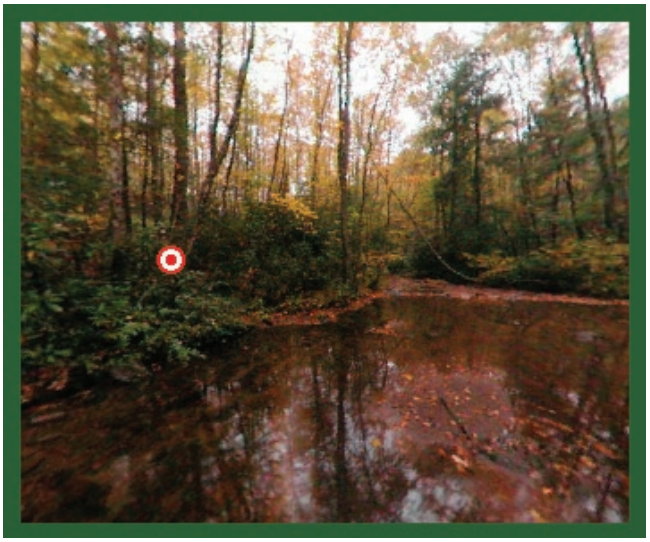
The following online products developed by the NBII and its partners can assist teachers in designing creative ways to integrate environmental topics into the classroom.

Immersive Technology Views

Grade Level: 6-12

Developed by: NBII Southern Appalachian Information Node and iPix

What it's used for: Immersive Technology Views brings the Appalachian experience to the user through virtual tour technology. The collection now includes a general introduction to an Appalachian ecosystem and tours of the Little Tennessee River and the Tennessee River Gorge.



In the virtual tour, you can double-click on or near the targets to see details about the typical Southern Appalachian ecosystem.

How to use it: Go to the Web site <http://sain.nbii.gov> and click on "Begin iPIX tours here." This virtual tour opens with a 360° view of a typical location in the Southern Appalachians, such as a point along the Appalachian Trail. When you move your cursor over the image, the cursor will change to a hand. Then you can navigate around the scene using your mouse. You can zoom in or out and double-click to obtain information about the typical Southern Appalachian ecosystem.

Use it in the classroom: Use this tool to allow students to experience the typical Appalachian ecosystem – without leaving the classroom. Conduct a teaching segment about different ecosystems in the United States, asking students to compare how this environment is both similar and different from the one in which they live. You can incorporate this exercise into a writing assignment to improve literary skills.

Patuxent Bird Identification InfoCenter and the Patuxent Bird Quiz

Grade Level: 9-12

Developed by: NBII Bird Conservation Node and Patuxent Wildlife Research Center

What it's used for: The Patuxent Bird Identification InfoCenter presents photographs, songs, videos, identification tips, maps, and life history information for North American birds. The Patuxent Bird Quiz lets you test your knowledge of North American bird identification, distribution in winter and summer, and song. The InfoCenter is a teaching and student resource, while the Quiz is an entertaining way to gain familiarity with both common and more challenging aspects of bird identification.

How to use it: Click on <http://www.mbr-pwrc.usgs.gov/Infocenter/infocenter.html> to access the InfoCenter repository page. Choose a bird of interest and click to find information on identification, life histories, maps, songs, and taxonomy. Click on <http://www.mbr-pwrc.usgs.gov/bbs/trend/birdquiz.html> to access the bird quiz. Choose beginner or advanced and whether you want to conduct the quiz using photos, maps, or songs.

Use it in the classroom: Use the tools in a variety of ways to access the information, including: (1) ask students use the sites to gather information; (2) have students develop Web sites and Powerpoint reports on bird species using products from the InfoCenter; and (3) ask students to develop their own versions of the quiz and infocenter tailored to their local areas for use in the classroom. Have students link to selected species accounts from the InfoCenter to highlight species common in their neighborhoods.

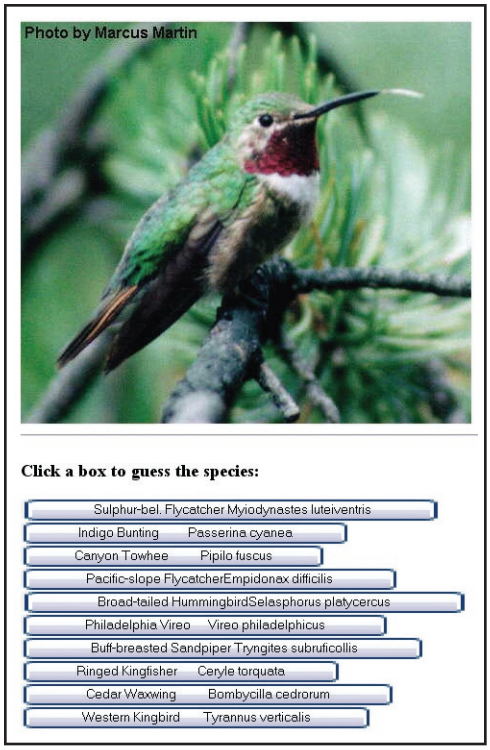
Science Information Database (SID)

Grade Level: 8-12

Developed by: Southwest Information Node: NBII and the Southwest Strategy

What it's used for: SID lets you search for information on scientific research or collection activities on federal public lands in Arizona and New Mexico.

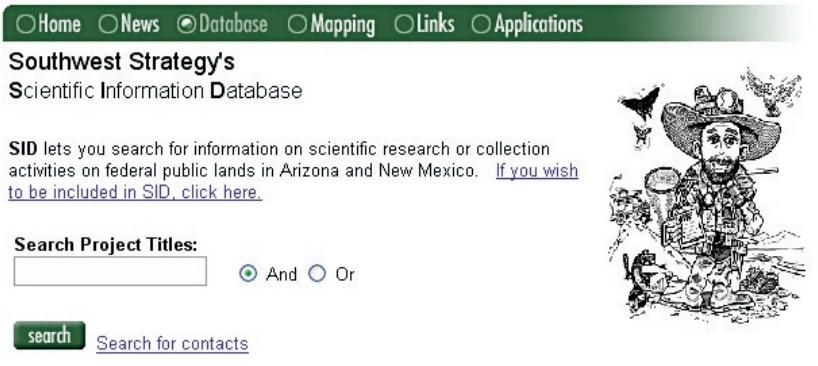
How to use it: Go to the Web site <http://swin.nbii.gov/nbii/contacts/swindb.jsp>. From there you can search project titles. For example, type in "Southwest Willow Flycatcher" and you will get a listing of project titles related to that species. You can then choose one of the projects to get contact information for the scientist conducting that research.



The Patuxent Bird Quiz tests your knowledge of a variety of bird species.

You can also search for contacts by using area of expertise, permitting agency, or keyword. For example, using the "Invasive/Exotic Species" area of expertise you will find 33 scientists listed who conduct work in this field. You can then link to contact information for these scientists. You can also limit your search to only those scientists in this area of expertise who are conducting research for the permitting agency.

Use it in the classroom: What are scientists studying? Choose a "hot" environmental topic and see what agencies are conducting research and where. For example, under the Invasive/Exotic Species area of expertise, see what different types of issues are being researched by scientists (salt cedar, effects of introduced species on aquatic reptiles and amphibians, and so forth). Some scientists will have individual Web sites where you can get more information on their research activities. An activity such as this reinforces research skills and current event awareness in science.



Visit the home page of the Scientific Information Database.

Taxonomic Service

Grade Level: 10-12

Developed by: Pacific Basin Information Node: NBII, Bishop Museum, and Hawaiian Natural Heritage Program

What it's used for: The Taxonomic Service tool allows the user to discover where certain organisms live or which organisms live in a certain geographic area.

How to use it: First go to the Web site <http://pbin.nbii.gov/>.* The taxonomic service has a series of menus and search options. Choose an organism or browse a list of organisms. Click on the organism name to find out habitat information and naming history. Next, use the mapping function to see where the organism usually lives, and find out range information.

Use it in the classroom: Use the mapping function of the tool to plan a biology or ecology lesson around the theme "what lives in our school yard" or "what lives in your neighborhood." This tool demonstrates how taxonomic nomenclature works, why it is important, and how to identify organisms.

*Look for this tool in November 2003.

For More Information

For more information on NBII educational resources, please contact:

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